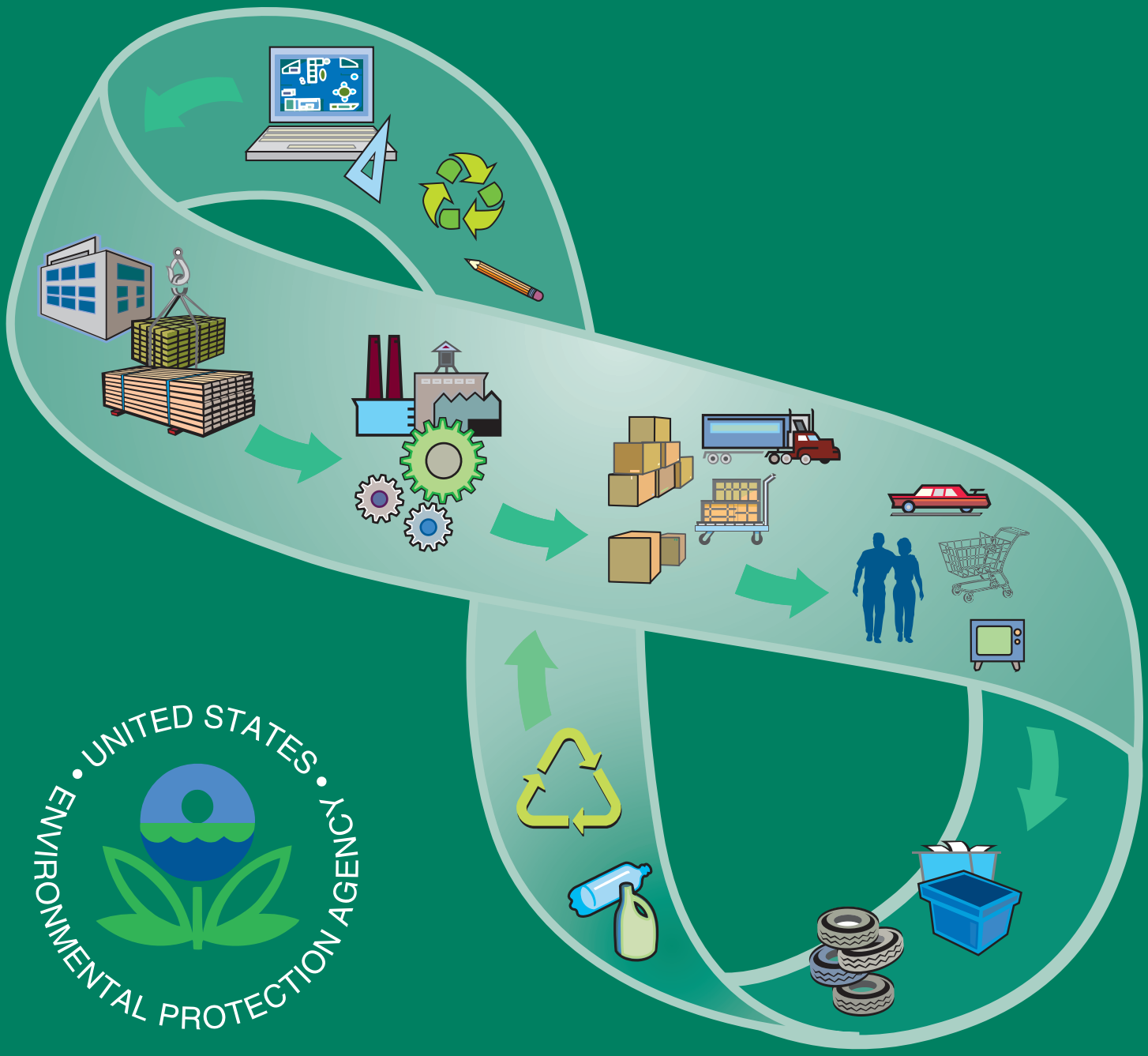
Resource Conservation Challenge
Strategic Plan

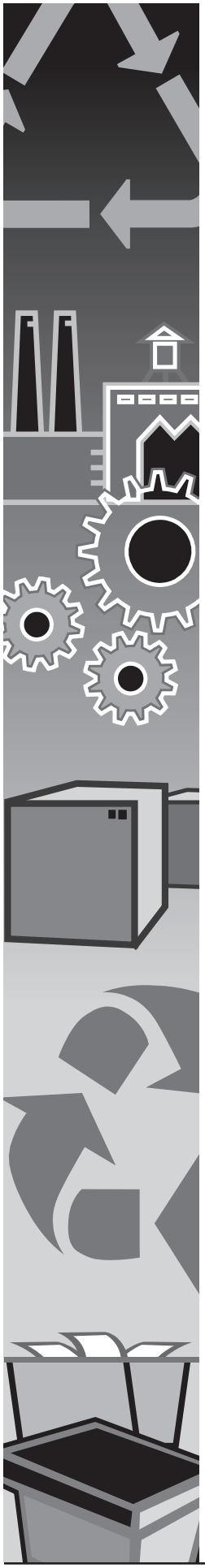
WHAT CAN YOU SAVE TODAY?
S M T W T F S
RESOURCE CONSERVATION CHALLENGE

WHAT CAN YOU SAVE TOMORROW?

Five Year Plan



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



Foreword

By Tom Dunne, Deputy Assistant Administrator

Office of Solid Waste and Emergency Response

What did you do with your last empty soda can, or the one before that? Did you save energy and money, reduce greenhouse gases and protect our environment by recycling it? Did you take a few seconds and find a recycling bin at the local mall, your school or at work? In past years, we didn't care enough, we didn't save enough; in one year, we simply tossed out nearly 51 billion cans! Making the same number of new cans amounts to 16 million barrels of crude oil, which is enough gas to run over a million cars for one year. All wasted. Aluminum beverage containers are only one product, one commodity, one material that we should never consider a waste.

How about that old, obsolete computer? Valuable.
Empty plastic milk jugs? Valuable.
Concrete from a demolished building? Valuable.
Even coal ash? Valuable.

Recycling isn't the only way to recover value from a product. Designing a product without toxics and making it with recovered materials also saves tremendous amounts of energy, money, and benefits our environment. The Resource Conservation Challenge (RCC) was launched in 2002 to reinvigorate resource conservation, asking all Americans — What Can You Save Today? Now, we put forward a plan, asking:

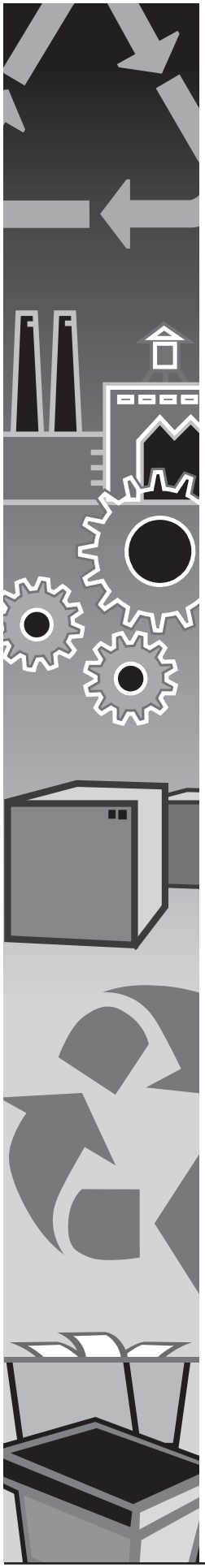
What Can You Save Tomorrow?

The future of resource conservation has a foothold in the past. A generation ago Congress passed the Resource Conservation and Recovery Act (RCRA) with the goal to "recover energy and other resources from discarded materials". Since RCRA was passed, we've worked hard to ensure the safe handling, management, and disposal of waste through a "cradle-to-grave" approach. RCRA is a national, statutory program designed to address waste after its has been created or, in some instances, mishandled. Consequently, we have dealt with waste management issues through tough, enforceable regulations, by cleaning up contaminated sites, and by strictly controlling disposal.

Today, we need a new approach. We need to build a sustainable program for pollution prevention, recycling, beneficial use, and conservation of these materials we once considered merely waste. This type of approach is a "cradle-to-cradle" system for materials management. It promises to move us vigorously toward a world where nearly all materials are reused or recycled. It shifts our focus to a product's entire life cycle, starting first with product design and carrying straight through to product disposal—making goods more durable, recyclable, and less hazardous.

So, the Resource Conservation Challenge perpetuates this point of view. In the next 5-10 years, we can accomplish a lot—be it recycling millions of computers, beneficially using industrial byproducts, and even designing the greenest products possible. Today's strategy provides direction. In some instances, the RCC focuses on critical areas where a significant amount can be accomplished quickly. For other extremely difficult and complex issues, the path to success may be evolutionary. As we move forward implementing the projects and programs that make up the RCC, new ideas, innovative solutions, and new measures of success will be incorporated into the RCC strategy, giving us the best opportunity to accomplish our goals.

This strategy illustrates not only how the RCC will grow, but also how important it is to work collaboratively with internal EPA offices, states, industry, and the environmental community. To strengthen this collaboration, the leadership of the RCC is now shared jointly by my office and the Agency's Office of Pollution Prevention and Toxic Substances. The strategy's direction, goals, and objectives illustrate that integrated planning has already begun. It shows how this partnership is well on its way to making sure that both waste management and pollution prevention are part of the resource conservation solution of the future. Through this plan, the RCC moves beyond merely asking, "What can you save today?" It also shows us what we can save tomorrow.



Introduction

Since the creation of the U.S. Environmental Protection Agency (EPA), the United States has made enormous progress in protecting and improving the environment. The Resource Conservation and Recovery Act (RCRA) has been a significant force in achieving this environmental progress. RCRA establishes the basis for waste management in the United States. While the Act is probably best known for creating the waste management regulatory structure, its very name emphasizes saving and recovering our natural resources.

EPA's Office of Solid Waste (OSW) implements RCRA. OSW works to protect against the hazards of waste disposal by focusing on materials recycling and reuse, toxic chemical reduction and use, and energy conservation. Additionally, OSW is working in collaboration with the Agency's Office of Pollution Prevention and Toxic Substances (OPPTS) to improve efforts to save and recover valuable materials. OPPTS is a vital EPA program that works to reduce risks from highly toxic materials. Its Pollution Prevention (P2) Program strives to reduce or eliminate waste before it is generated.

The Resource Conservation Challenge (RCC) combines the strengths of these complementary programs to:

- Prevent pollution and promote recycling and reuse of materials;
- Reduce the use of toxic chemicals; and
- Conserve energy and materials.

Established in 2002, the RCC is primarily organized around ambitious challenges and voluntary partnerships that aim to make dramatic progress in the achievement of these goals. RCC voluntary partnerships seek to improve environmental performance by challenging stakeholders to identify and implement innovative approaches that go beyond compliance and current regulations. By focusing on resource conservation—including more efficient use of materials—the RCC unites OSW and OPPTS in a partnership that will lead shared projects and will identify and achieve waste and toxic reduction goals.

In *Beyond RCRA: Prospects for Waste and Materials Management in the Year 2020* (referenced hereafter as 2020 Vision), EPA and state environmental officials initiated discussion on the direction of waste and materials management in the United States over the next 20 years. The 2020 Vision examines trends and future directions in materials use and technology use. It identifies three overarching goals:

- Reduce waste and increase the efficient and sustainable use of resources;
- Prevent exposures to humans and ecosystems from the use of hazardous chemicals; and
- Manage wastes and clean up chemical releases in a safe, environmentally sound manner.

Furthermore, EPA is developing a Pollution Prevention (P2) Vision to provide strategic focus and identify current P2 priorities. The P2 Vision frames three broad strategic categories:

- "Greening"[1] supply and demand,
- P2 integration, and
- Delivery of P2 services.

EPA is now charting its direction, building on the 2020 and P2 Visions. The RCC is a way to achieve a future where waste is a concept of the past. When it is economically feasible, the RCC's goals are to reduce what comes into the waste management cycle, using pollution prevention,

[1] The term environmental "greening" is used in many ways in different contexts. For the purposes of our strategy, the RCC generally defines greening as practices, consistent with the demands of efficiency and cost effectiveness, that prevent pollution and waste, eliminate toxics, and increase recycling. This also includes expanding markets for recovered materials through preference and demand for such products.

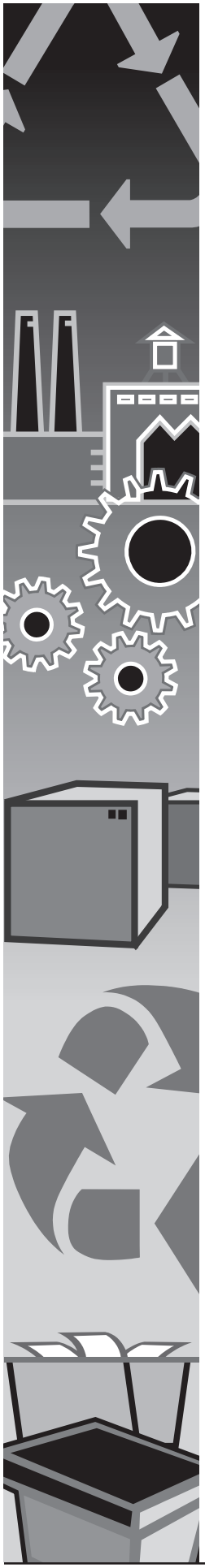
waste minimization, source reduction, and manufacturing process and/or product design changes. Moving to an efficient and safe materials flow is central to the RCC. EPA acknowledges industry's progress and willingness to move forward with this shift in focus toward resource conservation. EPA also acknowledges that some waste disposal will always continue to be a necessary, yet less desirable, option.

The Agency Strategic Plan and the 2020 and P2 Visions call for a transformation of the nation's current waste-handling system to more of a materials management system. The RCC—in partnership with the states—aims to achieve this transformation.

To complement this Strategic Plan, we have identified four key areas for national focus—Priority and Toxic Chemical Reductions, Municipal Solid Waste, Beneficial Use of Secondary Materials, and Green Initiatives—Electronics[2]. In spring 2005, after discussions within EPA and with our state RCRA and pollution prevention counterparts, we developed a national action plan for results in each of these four areas. This plan describes specific goals and actions needed to move toward the overall goals of the RCC. The action plan also identifies specific ongoing and new activities, and associated means, benefits, measures and outcomes, and outlines the implementation priorities and responsibilities of participating EPA offices and key stakeholders.

This RCC Strategic Plan, with its focus on waste and toxics, aligns internal EPA and state projects, goals, and strategies. In the short term, the RCC will focus primarily on solid waste and pollution prevention. Ultimately, the RCC challenges us to put "resource conservation and recovery" into the design and manufacturing of products or recycling options and purchasing decisions.

[2] The RCC continues to work in other key areas for resource conservation, e.g., tires, hospitals, schools, green buildings. These areas, however, are not RCC national priority areas and have existing champions in other program offices or within the Office of Solid Waste.



The RCC Strategic Plan

Through the RCC, EPA challenges businesses and manufacturers to enter into partnerships to dramatically reduce the use of toxic chemicals, or to eliminate waste when possible. It challenges individual consumers to make more informed purchasing decisions and more environmentally friendly waste and materials management decisions. And, it challenges government to lead by example. Our specific challenges will be described in more detail in the action plans being developed for each of the four national priority areas for the RCC (see discussion below).

To establish a strong foundation for the RCC, the program will harmonize the work of OSW and OPPTS to attain waste and toxic reduction goals. The RCC Strategic Plan focuses on specific waste and toxic reduction principles that will provide national coordination, while allowing the continuation of work in other important environmental areas. The RCC program is working to enhance state participation by working through various state organizations. We are also interested in reaching out to states that are engaged in exploring materials management programs, projects, activities, and resource conservation.

Purpose

This Strategy describes the RCC's direction, focus, vision and broad goals. It is the key to establishing the path along which the RCC will continue to grow. The RCC will grow from a collection of individual, ambitious projects and achievements into a cohesive set of robust programs. These programs aim to identify opportunities for, and ways to achieve, pollution prevention, recycling, reuse, toxics reduction, and energy and materials conservation. The Strategy is dynamic, gaining greater specificity as the RCC identifies areas of national focus, further identifies goals and measures specific to different areas, and develops specific action plans. The RCC Strategy will:

- Coordinate OSW and OPPTS waste and toxics reduction programs and projects;
- Better align EPA and state focus to attain effective materials management;
- Build on current partnerships and attract new partners; and
- Describe the measures used to track success for future projects.

Relationship to Other EPA Programs

The RCC provides a forum for leadership and coordination to focus EPA efforts with the collaborative efforts of stakeholders and partners. Many RCC activities require cross-Agency collaboration because RCRA and pollution prevention goals both relate to materials management. Since there are many other Agency efforts which complement the goals of the RCC, we aim to support those initiatives already underway. It will be important to ensure that the directions and goals established by the RCC are consistent with the goals established by other EPA and state programs. The RCC will seek the comprehensive collaboration needed to advance materials management efforts nationally.

Relationship to the Agency Strategic Plan

The RCC's three goals are drawn from the Agency's overall strategic goals and direction. More specific goals and strategies will be identified in the action plans, and will support the specific goals and commitments of EPA's 2003-2008 Strategic Plan.

The RCC is currently a part of both Goal 3 and Goal 5 of the Agency goals. Goal 3 relates to land preservation and restoration, and Goal 5 relates to compliance and environmental stewardship.

The RCC is working on projects that also support both EPA Goals 2 and 4. Goal 2 promotes clean and safe water, and Goal 4 addresses healthy communities and ecosystems. During each cycle of the Agency's Annual Performance Plan, the RCC will add specific targets and measures that support the goals established by EPA's 2003-2008 Strategic Plan.

The Need for Action Plans

To ensure coordination between the many stakeholders, we have developed operational documents to describe the specific actions to fulfill the RCC promise. EPA has identified four key areas for national focus—Priority and Toxic Chemical Reductions, Municipal Solid Waste, Beneficial Use of Materials, and Green Initiatives–Electronics. The core of each plan is the specific goals and actions needed to move toward the overall goals of the RCC. Each plan also identifies specific ongoing and new projects, and associated means, benefits, measures and outcomes, and describes the implementation priorities and responsibilities of participating EPA offices, states, and key stakeholders. These plans are iterative documents that will change to adjust to emerging priorities and new circumstances.

The Principles

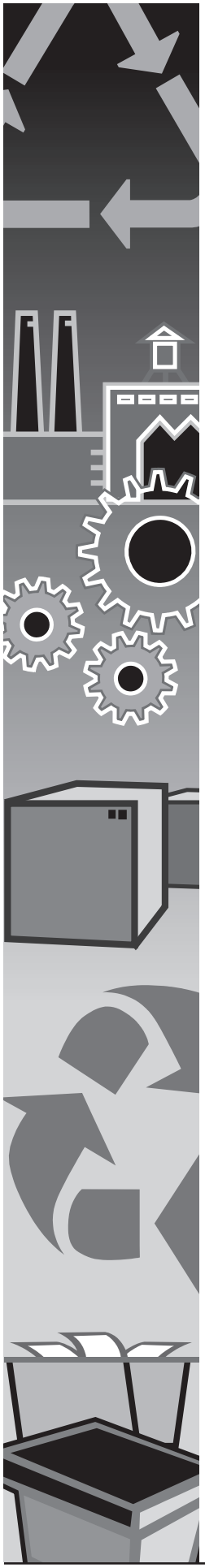
Our long-term vision—to move from a waste management program to a materials management program—is guided by five basic principles:

- Product Stewardship,
- Beneficial Use of Materials (source reduction, recycling, and beneficial use),
- Energy Conservation,
- Priority and Toxic Chemical Reduction in Waste, and
- "Greening" the Government.

These principles provide a sense of direction, a sense of the outcomes the RCC plans to achieve, and the roadmap it intends to follow. The Strategic Plan provides a foundation for overall Agency planning, budgeting, reporting and accountability, while acknowledging that commitments are dependent on resources.

In the following pages, the RCC Strategic Plan focuses on each RCC principle and defines the Agency's strategic directions and goals for that particular principle. Taken as a coordinated whole, the Plan identifies key RCC goals over the next 5 to 10 years. Achieving the goals requires partnering with stakeholders inside and outside the Agency. Together, partners will participate in goal development and help put the necessary structure and resources in place. The RCC Strategic Plan does not start from scratch; existing efforts led by EPA and state environmental agencies have laid the groundwork for progress. The Plan aligns with other EPA and state work to enhance resource conservation.

Although the individual principles are similar in seeking to promote resource conservation, it is important to recognize that the plans discussed under each principle differ. Each principle contains diverse strategic approaches, several at different stages of implementation. These strategic approaches do not reflect RCC's final thinking, and we expect to add focus and specificity in many areas as the RCC grows. Some areas focus on short-term ideas based largely on current projects; others reach into the future. Some will be carried out through new partnerships, others will succeed through cross-office collaboration, and some may require program changes. These differences mean that results may be evident relatively quickly in some areas, while for others, results may take years to achieve. In all cases, the common objective across the individual principles is to establish direction and to create a mechanism that identifies and achieves measurable environmental results.



I. Product Stewardship

Product Stewardship refers to "greening" products from design to use to disposal. Thus, Product Stewardship encompasses toxics reduction, design for reuse, upgrade or recycling, maximizing energy conservation and product life span, and making sure, when practicable, that the specific product can be returned to some kind of useful application when it is no longer needed. Product Stewardship is a means to achieving the basic goals of the RCC.

The RCC focuses on the materials-use aspects of Product Stewardship. The goal is to make sure that products are designed to have another useful life and that funding and infrastructure support that endeavor. The RCC further seeks cooperation from the necessary parties to ensure that discarded products find their way to another valuable use. Valuable use may mean that a product is returned to service through upgrade or repair, or that its component parts or commodities are used in new products.

To get to this more sustainable way of doing things, we need to engage all of those who benefit from products—manufacturers, retailers, consumers, and recyclers—in new kinds of partnerships. Right now the primary responsibility for managing discarded products and materials falls on government and the waste management industry. With everyone's help and involvement, we can change the current paradigm of "buy, use and dispose" to one of "buy, use, reuse, upgrade or recycle".

Several things must happen in order to achieve this transformation. First, we need to ensure that products are designed with reuse, upgrade and recycling in mind. One reason it is so much more expensive to divert waste from landfilling or burning is that most products do not easily lend themselves to reuse, upgrade or recycling.

Second, sustainable funding sources for recovery must be available. Right now, recycling is largely funded by tax dollars. For some materials, recycling is not economically sustainable; however, for other materials, because of the value in the product or high cost of using virgin materials, recycling is economically sustainable. When tax revenues fall, recycling generally takes a back seat to other more urgent public needs, such as police, firefighters, or education. One approach to get more sustainable funding for recycling, and the direction that is being taken by Canada, Japan, and European nations, is to make the cost of recovering products at the end of their useful life part of the cost of buying the product.

Third, we need to improve the mechanisms of collecting and separating products for recovery. Two competing needs conspire to make this a daunting task. On the one hand, it is efficient from a collection cost standpoint to load lots of different products into one container such as a residential "blue bin," and dump them from one recycling truck. On the other hand, separating different products and different materials at drop-offs points—regardless of whether they are curbside, municipal, retailer, or charity collection sites—can yield cleaner, more valuable commodity streams that will better help pay for their recovery. Collection can be accomplished either through the existing municipal waste or recycling infrastructure or by employing the existing product distribution system to take materials back for recovery, such as "reverse distribution." Improvements in this area are needed to help make recovery more affordable and convenient, and to maximize the value of recovered materials.

Finally, as we move toward an economy based on reuse, upgrade and recycling, we need to be sure that these processes are managed safely. In the past, we have worked to ensure that our landfill and incineration standards encompass safe management. Now, we need now to devote resources to ensuring that reuse, upgrade, remanufacturing, and recycling processes are conducted safely without unacceptable risk to human health and the environment.

Product Stewardship – Principal Components

Identify Priority Product Streams

RCC will work with states and industry stakeholders to select a manageable set of product categories to target for Product Stewardship initiatives. For each product sector, RCC will develop a focused strategy for applying the Product Stewardship framework.

Environmentally Friendly Design

RCC will continue to work with stakeholders in the product chain to develop tools, such as "green" product rating systems. These tools can encourage manufacturers to make "greener" products and institutional buyers and others to purchase these products.

Existing Product Streams

RCC will continue work on product streams that have already been selected, such as electronics and carpets. Electronics has been identified as a national focus area, and RCC is developing a strategy focusing specifically on this commodity.

Scope

For the purpose of the RCC Strategy, Product Stewardship includes:

- Designing products with a "green" focus
- Facilitating efficient collection (in addition to source reduction, recycling, and beneficial use)
- Market development (in addition to source reduction, recycling, and beneficial use)
- Safe recovery

The targets outlined below align with the following Agency Strategic Plan goals:

- **Goal 3: Land Preservation and Restoration**
  Sub-objective 3.1.1: Reduce Waste Generation and Increase Recycling
  - Reduce waste material through product and process redesign.
- **Goal 5: Compliance and Environmental Stewardship**
  Sub-objective 5.2.2: Prevent Pollution and Promote Environmental Stewardship by Business.
  - Improve environmental stewardship practices in business operations by adopting more efficient, sustainable, and protective policies, practices, materials, and technologies.

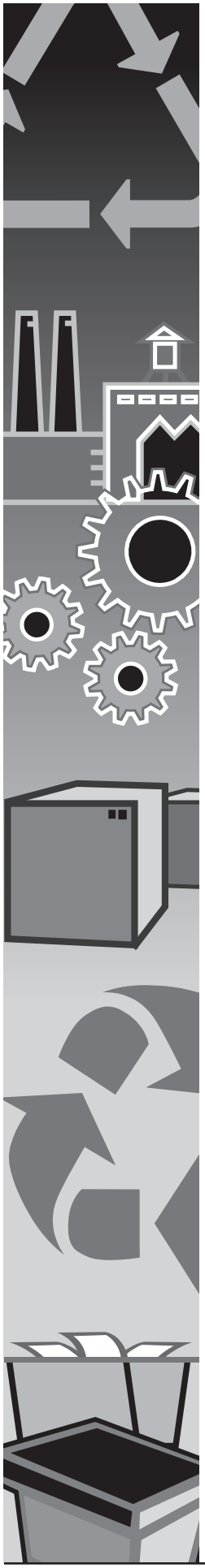
Broad Goals: Where RCC Wants To Be in 5–10 Years

Only by working with the product chain—manufacturers, retailers, consumers—before products ever become waste can products be designed to ensure that what is waste today will be useful to society tomorrow. This is a critical component of achieving RCC's goals for waste minimization, and a cornerstone of the transformation of materials and waste management policies, incentives, and disincentives necessary to achieve the 2020 and P2 Visions. The design component of Product Stewardship is important to move toward materials management scheme. Therefore, over the next few years, RCC anticipates that environmentally friendly design decisions will be important for designers to factor into their work. The underlying goals of Product Stewardship are:

- To work within the product chain to develop creative, economical ways to encourage "greener" product design so that products are much easier and cheaper to reuse, upgrade and recycle for the same or higher value uses.
- To work to develop sustainable financing mechanisms to support product recovery and discourage disposal.
- To encourage environmentally safe practices in the reuse, upgrading, remanufacturing, and recycling of products.

Strategic Targets: What RCC Wants To Achieve

- Within 10 years, as mentioned in the RCC 2005 Action Plan, EPA's goal is to make it as convenient for the average American to take a discarded TV or PC for reuse, upgrade, or recycling as it is to purchase a new product. The overwhelming bulk of discarded electronic equipment will go to safe reuse and recycling. Electric products will be designed for recycling, and contain minimal toxic constituents.
- In 2002, the carpet industry, 12 states, and EPA signed a Memorandum of Understanding (MOU) for Carpet Stewardship. That MOU set a goal to divert 40 percent of postconsumer carpet from landfills by 2012 primarily through reuse and recycling. The overall waste diversion goal is divided into specific goals for reuse:
  - 3 to 5 percent for reuse,
  - 20 to 25 percent for recycling,
  - 3 percent to cement kilns, and
  - 1 percent waste-to-energy.
- Additional information can be found in the Action Plans located on the RCC web page, www.epa.gov/rcc.



II. Beneficial Use of Materials

(Source Reduction, Recycling, and Beneficial Use)

This RCC principle foresees a future where we all generate less waste, we recycle as much as we can, and we beneficially use waste and materials through environmentally sound practices. Rather than view the byproducts of our lives as waste destined for disposal, we will see the economic and environmental benefits of using them as inputs to new products and in ways to reduce our reliance on virgin materials.

Beneficial Use of Materials – Principal Components

Analyze and Characterize Waste Streams

RCC will look at manufacturing processes and products, including industrial and municipal waste streams. RCC will continue ongoing efforts where they have proved effective and needed. RCC also will identify additional efforts based on select criteria, and develop corresponding initiatives for new wastes streams or potential partners.

Analyze Current Situation

RCC will identify environmentally safe and beneficial practices, incentives, and barriers.

Increase Outreach and Education

RCC will conduct various campaigns to educate all parties in the product chain about the benefits of source reduction, recycling, and beneficially using waste and materials.

Two Primary Focus Areas

- To increase recycling of municipal solid waste by focusing on paper, yard and food wastes, and packaging/containers (e.g., wood packaging, paper cartons, polymer wraps/films); and
- To increase beneficial use of secondary materials by focusing on coal combustion byproducts, foundry sands, and construction and demolition debris.

Scope

This principle focuses on both consumers and industry and outlines efforts to achieve RCC goals. All wastes and materials are covered under this principle since there are large volumes of these materials that may be recycled or beneficially used. Waste and materials come from homes, yards, offices, and manufacturing and industry processes. This principle adds a new RCC focus on nonhazardous industrial waste, which amounts to about 214 million tons a year. The byproducts of these manufacturing processes represent a large, nonhazardous industrial waste stream with significant potential for recycling and beneficial use. Some of the industrial waste is diverted from landfilling through reuse and recycling but, for others, inadequate markets restrict their reuse or recycling. This lack of use is due in part to the uncertainty of the environmental impact of the reuse and recycling of these waste streams.

America generates approximately 250 to 350 million tons per year of construction and demolition debris– waste generated from building, demolishing, and rebuilding roads, bridges, and buildings. While millions of tons of concrete and asphalt respectively are recycled each year, many opportunities to recycle and safely reuse other construction-related products remain untapped. In addition, by taking a design for the environment approach, Americans could reduce construction waste from new construction projects.

The RCC's success in increasing the beneficial use of wastes as materials will largely be measured by our ability to work with states, local governments, and others to reduce the generation of municipal solid waste, to divert that waste from disposal, and to effectively promote recycling of valuable commodities in those municipal waste streams. RCC has set the daunting national goal of achieving a 35 percent recycling rate for municipal solid waste by 2008, and holding the per capita rate of municipal solid

waste generation constant at 4.5 pounds per person per day. To meet these goals, RCC will develop a targeted strategy, aimed at increasing the recycling rate of paper, organic wastes (yard and food waste), and packaging containers as key waste streams.

For the purpose of the RCC Strategy, this principle includes:

Source Reduction:

- By 2008, maintain the national average municipal solid waste generation at 4.5 pounds per person per day.

Recycling:

- By 2008, increase municipal solid waste recycling to 35 percent from 30 percent in 2002.

Beneficial Use:

- By 2008, increase the use of coal combustion products to 45 percent.
- By 2010, increase the use of coal ash in concrete to 20 million tons.

The targets outlined below align with following the Agency Strategic Plan goal:

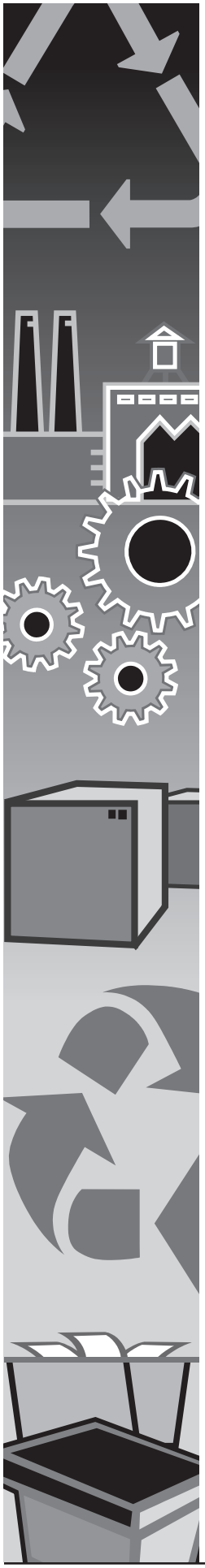
- **Goal 3: Land Preservation and Restoration**
  Sub-objective 3.1.1: Reduce Waste Generation and Increase Recycling

Broad Goals: Where RCC Wants To Be in 5–10 Years

- RCC's long-term goals for beneficial use of materials is to:
  - Reduce the amount of municipal and nonhazardous industrial waste generated;
  - Increase the recycling rate of key municipal solid waste streams; and
  - Increase the beneficial use of key nonhazardous industrial waste streams.

Strategic Targets: What RCC Wants To Achieve

The nation has a fairly strong infrastructure for recycling municipal solid waste. As mentioned in the RCC 2005 Action Plan, by focusing on targeted key waste streams, such as paper, yard and food waste, and packaging containers, RCC should meet the national 2008 recycling goal for municipal solid waste. The goal of the Coal Combustion Products Partnership Program (C2P2), which is a cooperative effort of RCC and the coal combustion products industry, is to help promote the beneficial use of coal combustion products. C2P2 will help to meet RCC goals by recycling the large waste stream of coal combustion byproducts. Construction and demolition debris and foundry sands will be other large nonhazardous waste streams targeted for recycling and beneficial use goals. Additional information can be found in the Action Plans located on the RCC web page, www.epa.gov/rcc.



III. Energy Conservation

Energy conservation is intrinsic to many RCC activities. By working with stakeholders, the RCC aims to increase energy savings associated with the management of waste and from using recycled materials. Also, many products that end up in the waste stream have energy impacts at each stage of their life cycles: the acquisition of raw materials, manufacturing into products, use by consumers, and disposal as waste. While the existing U.S. regulatory scheme ensures that wastes are properly managed, opportunities still exist to improve on this approach and conserve additional energy in the process. Most notably, we can decrease the amount of waste generated and increase recycling. The energy saved and recovered will provide many benefits, such as reducing the releases of pollutants from energy generation, minimizing reliance on foreign energy sources, and financial incentives to manage certain wastes.

Energy Conservation – Principal Components

The RCC plans to engage in a variety of activities across program areas to accomplish its goals. While many of the activities involve new efforts, some are associated with well-known programs and thus require a significant level of collaboration and alignment towards common goals.

Reform and Revision

RCC will analyze EPA regulations, policies, and guidance and consult with our stakeholders to identify barriers, gaps, and opportunities for change that can be explored.

Assistance, Evaluation and Outreach

RCC will facilitate change by providing support, outreach, and partnership services to public and private sectors.

Education

RCC will work to educate the public and private sectors regarding waste materials management. The new approach will focus on the benefits of reuse of waste materials to increase resource conservation or to produce energy.

The targets outlined below align with the following Agency Strategic Plan goals:

- Subobjectives 5.2.2 - 5.2.4, which include energy savings that result from activities in the Performance Track Program, Sector Strategies Program, State Innovation Grant Program, and the Environmental Results Program, among others.

Scope

The Energy Conservation principle challenges RCC partners to focus on untapped opportunities to conserve and recover energy from waste. The RCC recognizes that other sources of energy, such as wind, solar, water, are being explored and championed in other Agency actions. The RCC will continue to discuss inclusion of these programs where it is feasible and makes sense. It is important to note that advances in the recovery of energy from wastes should not come at the expense of current and future efforts in source reduction and recycling. RCC energy recovery means:

- Safely recovering energy from materials now handled as wastes, and
- Managing materials more effectively throughout their life cycles, thereby saving energy at each stage.

Many RCC activities contribute directly to energy conservation. For example:

- Using coal combustion byproducts such as fly ash in concrete reduces the need to produce Portland cement, leading to direct energy savings.

- When conditions are appropriately controlled, scrap tires can be safely burned as fuel.
- Landfill gases can be recovered through landfill systems.

The RCC will continue to explore opportunities in these areas and has developed measurable goals or is in the process of developing measurable goals. In addition, some advanced industrial processes for handling secondary materials and industrial byproducts may have energy benefits. To advance the goal of energy conservation, the RCC will increase public information and provide technical assistance to promising programs. The initial focus areas include comparable and waste-derived fuels and technology development.

Broad Goals: Where RCC Wants To Be in 5–10 Years

Access to reliable and clean energy is a national priority and energy conservation represents areas in which the RCC will increase attention and activity. The RCC hopes to accelerate the introduction of conservation measures, which can reduce the environmental impact of energy production, conserve national resources, diversify our energy production profile, and enhance sustainability.

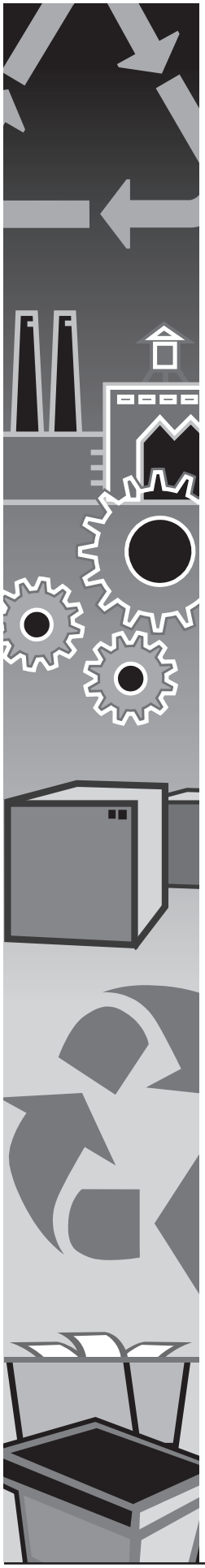
Because there are many opportunities and priorities that vary according to geographic area, the first phase of the strategy implementation will involve energy conservation pilot projects. The RCC plans to focus on existing energy activities and determine how these activities contribute to the RCC's strategic objectives. These, along with others in the next five years, will evolve into a more structured RCC energy conservation program that works towards the following goal:

- Challenge RCC partners to increase energy savings associated with recovering energy from wastes and saving energy throughout materials life cycles.

Strategic Targets: What We Want To Achieve

Within 10 years, the RCC anticipates meeting the objectives outlined below. We will add to the RCC objectives already included in the Agency's Strategic Plan by working with stakeholders to agree on appropriate numerical targets for RCC's objectives. Currently, EPA's Strategic Plan expresses energy goals in BTUs of energy reduced and in percent of energy saved. The following RCC targets can be expressed either way.

- Increase the energy saved through waste prevention, recycling, and product stewardship efforts.
- Increase the energy generated from wastes not amenable to source reduction, recycling, or product stewardship efforts.
- The RCC will continue to work with stakeholders to identify the initial activities on which the RCC will focus and to set numerical targets for the specific areas or waste.



IV. Priority and Toxic Chemical Reduction in Waste

The use of chemicals in industrialized nations has brought about tremendous advancements in technology and improved virtually every aspect of society. Although useful, certain chemicals in use today are highly toxic. They do not break down when released into the environment and can be dangerous even in small quantities. The Agency has identified 31 specific priority chemicals that meet these criteria. While this list represents the Agency's priority, it is certainly not exhaustive. Other candidates for national attention are likely to be identified.

Priority Chemical Reduction – Principal Components

National Partnership for Environmental Priorities Program (NPEP)

The NPEP program, a voluntary partnership program to reduce the generation and use of 31 priority chemicals, is the RCC's most direct tool for "beyond compliance" management of priority chemicals. It forms a significant foundation upon which the RCC will build its priority chemicals reduction and management plan. As NPEP grows, it will complement existing state programs to provide a framework for national chemical reduction.

Other EPA and state activities, such as efforts to remove mercury from dental amalgam, mining operations, and automotive switches, or efforts to remove lead from automobile tire weights, can also play a significant role in reducing the release of priority chemicals to the environment.

Pollution Prevention (P2) Chemicals Agenda

This component is an approach to look for additional P2 opportunities for substances that are identified as being of national concern. These substances may include other persistent, bioaccumulative and toxic chemicals (PBTs) that are not currently identified as the Agency's priority chemicals. RCC may also focus on chemicals known to cause environmental problems, such as chemicals of concern that are frequently found at cleanup sites. As EPA, in cooperation with the states, develops a strategic plan in the national focus area of priority chemicals reduction, the RCC will address the need for additional national-level activities in this area.

Scope

EPA's goal is to reduce the release of priority chemicals in waste an additional 10 percent by 2008, building on a 50 percent reduction achieved in 2005 (using a 1991 baseline). The 1991 baseline reflects releases of 31 specific priority chemicals. EPA's national efforts have focused primarily on pollution prevention, prior to use, and regulatory, end-of-pipe waste management. The U.S. has made significant progress in reducing releases of the 31 priority chemicals and their presence in materials and wastes.

The RCC is developing a chemical reduction plan that will identify and reduce the use of other toxic chemicals in product manufacturing that ultimately end up in waste streams. It should be noted that the list of 31 priority chemicals does not include all chemicals of concern, many of which are being targeted under other Agency programs. For example, some of these chemicals are persistent, bioaccumulative and toxic chemicals, such as certain brominated flame retardants (BFRs). Others may include chemicals that are of high importance that meet key criteria such as a new use, increased use, high production volume, or potential significant exposure risk. Still others–for example, halogenated organic solvents–have long been identified as a concern, and are targets of EPA and state P2 efforts. National efforts to reduce these chemicals will be recognized by RCC programs, such as NPEP, and will contribute greatly to achieving this RCC principle.

The targets outlined below align with the following Agency Strategic Plan goals:

- **Agency Goal 1: Clean Air and Global Climate Change**
  Sub-objective 1.3: Protect the ozone layer
- **Agency Goal 4: Healthy Communities and Ecosystems**
  Sub-objective 4.1.3: Reduce chemical and biological risks
  Sub-objective 4.1.4: Reduce risks at facilities
- **Goal 5: Compliance and Environmental Stewardship**
  Sub-objective 5.2.2: Prevent Pollution and Promote environmental stewardship by business
  - Reduction of priority chemicals in hazardous and nonhazardous waste by 10 percent by 2008, using 2001 as baseline year.
  - PBT Initiative: By 2008, decrease releases of persistent bioaccumulative toxic chemicals by 15 percent and toxic chemicals (including dioxin) by 10 percent as reported in the Toxic Release Inventory (TRI), compared to 2001 levels.

Broad Goals: Where RCC Wants To Be in 5–10 Years

The RCC plans to continue its focus on priority chemicals and other Agency chemicals of concern. It will integrate the Agency's activities that are focused on pollution prevention, reduction, and proper management of these chemicals in wastes and products. One activity to help achieve this goal will be to significantly expand the existing NPEP Program, a multifaceted effort designed to increase collaboration between RCC and the regulated community.

Efforts to reduce the 31 priority chemicals will contribute to meeting both Government Performance and Results Act (GPRA) and pollution prevention goals. Identifying and targeting additional chemicals as priorities under the RCC will further supplement this principle. The RCC's chemical reduction strategy will bring attention to other important chemicals identified by EPA and states, and reduction achievements will be documented in EPA's Annual NPEP Trends Report.

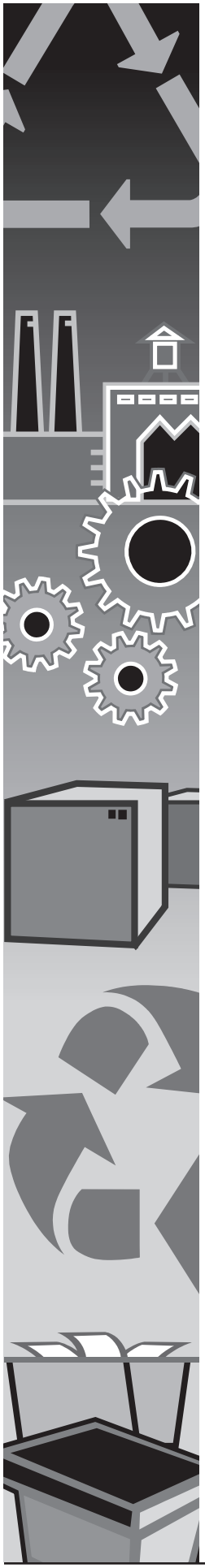
Additionally, the RCC will bolster the P2 program focused on High Volume Production Chemicals and other efforts such as the Green Suppliers Network. The RCC will also encourage industry and others to use certain tools like the PBT Profiler to self-assess and develop appropriate pollution prevention and toxic use reduction strategies. More information on these programs can be found on the P2 web site at www.epa.gov/p2.

The RCC's broad chemical reduction goals include:

- Substituting priority and other toxic chemicals with safer alternatives whenever possible;
- Minimizing the amount of toxics used whenever substitution is not possible;
- Maximizing recycling whenever minimization or substitution is not possible;
- Cradle-to-cradle chemical management;
- Minimizing exposures to toxics, and the volume and toxicity of waste through better product design; and
- Exploring assessment tools and using available data to quantify the realized risk reduction from priority and other toxic chemical programs.

Strategic Targets: What We Want To Achieve

- In the early years of the NPEP program, it was critical that RCC develop relationships with priority chemical generators. For that reason, NPEP historically set ambitious numeric goals for the number of partners recruited. Now that the NPEP program has matured, the program has shifted to focus more on the type and amount of chemical reduction that each program participant can offer. The emphasis of the NPEP program is now on the number of pounds of priority chemicals reduced, and not simply on the number of partners recruited.
- Between 2005 and 2008, part of the RCC priority chemicals strategy will be to identify new candidate chemicals of national concern. By the end of 2005, the RCC will consider whether to identify additional substances to target for a 10 percent reduction by 2008.
- Additional information can be found in the Action Plans located on the RCC web page, www.epa.gov/rcc.



V. Greening the Government

As recognized in Executive Orders E.O. 13101, "Greening the Government through Waste Prevention, Recycling and Federal Acquisition;" E.O. 13148, "Greening the Government through Leadership in Environmental Management;" and E.O. 13123, "Greening the Government through Energy Efficient Management," the federal government's environmental footprint is immense. The federal government is the largest purchaser in the United States—buying the equivalent of roughly $250 billion dollars worth of goods and services annually. The federal government also spends an additional $240 billion a year, indirectly, through grants and cooperative agreements. In addition, the buildings and landscapes that the federal government occupies have an effect on land, energy, natural resources, and on indoor and outdoor environments. The federal government owns nearly 500,000 buildings covering 3.1 billion square feet, accounting for 0.4 percent of the nation's energy use, and emitting about 2 percent of all U.S. building-related greenhouse gases.

Given the size of the U.S. government and the scope of its work (e.g., national parks, roads and highways, and revitalization efforts), the government not only has an opportunity, but also a responsibility to reduce its environmental impacts. The RCC's focus in this area will produce a variety of benefits from avoiding waste generation and disposal, reducing pollutant emissions, conserving land, reducing production costs, habitat restoration, and expanding and creating markets for green products and services. "Greening" the government will promote each of the other principles described in this Strategy.

Greening the Government – Principal Components

Green Procurement

RCC's goal is to influence the federal government to purchase products with green design and recycled content. RCC green products include, but are not limited to, office supplies, and building and landscaping supplies. They also encompass services that embrace environmentally preferable practices and/or solutions, such as green landscaping, green building construction and deconstruction, or green cleaning services.

Recycling and Waste Prevention Programs

RCC seeks to increase awareness among all federal government employees of the benefits of avoiding the generation of waste material and the benefits of recycling and/or reuse of waste material whenever possible. By setting an example, the federal government can help build the necessary infrastructure needed to create successful and sustainable waste prevention and recycling programs across the United States.

Scope

Greening the government will complement and promote the other RCC principles outlined in this Strategy. This principle focuses on a variety of environmental issues associated with federal procurement, greening buildings and waste prevention, and federal, state, local, and tribal government recycling. It formalizes the direction of the RCC with respect to greening the government, and it highlights new areas where the RCC can serve in a leadership capacity.

As stated previously, "greening" can be defined in a number of ways and can encompass a broad spectrum of environmentally preferable products, services and practices. Under this principle, Greening the Government includes:

- **Green Procurement.**
  The acquisition and/or offering of goods and services with attributes that reduce the reliance on virgin or raw material, and that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. "Green" procurement includes products that are made with recycled content, are energy efficient, or have other environmentally preferable attributes, such as containing fewer toxic chemicals, or that can be recycled easily.

- **Green Buildings and Landscaping.**
  The creation of federal buildings and their environs that are sustainable, conserve natural resources, and reduce pollution throughout their life cycles. Life cycles means siting and design, construction and demolition, operations and maintenance, and product reuse. This concept includes large-scale federal landscaping operations that use cost effective and environmentally preferable solutions and practices, such as reusing organic waste materials, conserving natural resources, and reducing the use of pesticides and other harmful chemicals.

- **Recycling and Waste Prevention Programs.**
  Creating a culture of waste awareness that motivates everyone to avoid the generation of waste materials, and to recycle and/or reuse waste materials whenever they can.

In addition to the RCC, many EPA offices work toward greening the federal government. In general, no one agency or department is responsible for making the federal government "green". Rather, it is a shared responsibility.

The targets outlined below align with the following Agency Strategic Plan goal:

- **Agency Goal 5.2: Improve Environmental Performance through Pollution Prevention and Innovation**
  Sub-objective 5.2.1: Prevent pollution and promote environmental stewardship by government and the public.

Broad Goals: Where We Want To Be in 5–10 years

The RCC's Greening the Government efforts for the next few years will focus on the broad goals below. As Greening of the Government already has established Agency and Federal workgroups, this list of RCC goals will be used in these discussions and inform the workgroups of potential RCC activities in this area.

- Enlist all levels of federal management and procuring officials to embrace the "buying green ethic" and to make it a priority.

- Coordinate one seamless Greening the Government program within EPA.

- Make purchasing and reporting easier, including identifying green products or services.

- Incorporate the Greening the Government concept into EPA grants, cooperative agreements, and contracts, and encourage other federal agencies to do the same.

- Measure success of the Greening the Government program.

- Establish criteria that recognize manufacturers for practicing product stewardship and incorporating federal procurement guidelines.

- Establish, implement, and improve waste prevention and recycling efforts within EPA and encouraging other federal Agencies to do the same.

- Have a certified Environmental Management System (EMS) for EPA nationwide, and encourage other federal agencies to do the same.

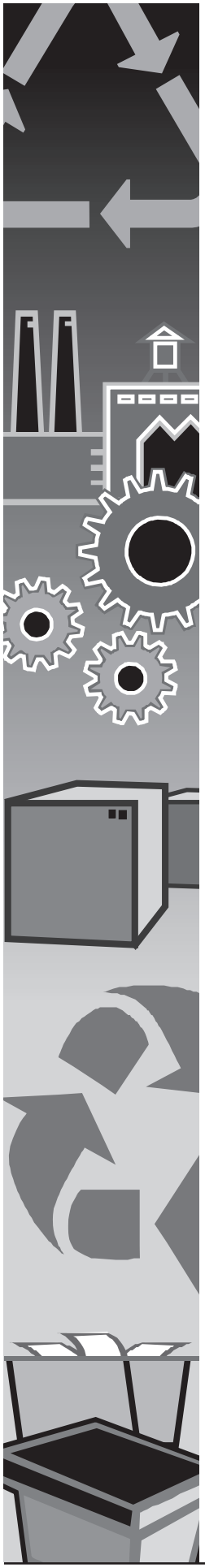
- Establish a disciplined approach to identify future Greening the Government opportunities.

Strategic Targets: What RCC Wants To Achieve

- Gain internal EPA agreement that Greening the Government is one coordinated effort, rather than separate and distinct programs.
- By 2005, establish a baseline on contract purchases that meet the federal comprehensive procurement guidelines. Items from the Federal Procurement Data System will form the baseline, which can be used to track increases in compliance across the federal sector.
- By 2006, reduce Toxic Release Inventory (TRI)-reported toxic chemical releases at federal facilities by 40 percent, from a baseline year of 2001.
- By 2008, EPA will do its share to reach the national municipal solid waste recycling goal of 35 percent.
- By 2008, RCC will go beyond compliance with executive orders to green federal government operations in its purchases of green products and services from a baseline year of 2002.
- By 2008, all federal agencies will have clearly defined environmentally preferable purchasing programs in place pursuant to E.O. 13101 Goal 5.1.1. These agencies will then expand their purchases of available green products and services, measuring against their baseline.

Green procurement policies are, for the most part, in place at the federal level. Statutes, executive orders, and policy statements require and encourage federal agencies to purchase and pilot green products and services across the government. Together, these policies direct the federal government to become leaders in this area, and to use their purchasing power to create markets for green products and services. The ultimate goals of the Greening the Government principle are to:

- Implement a program that brings together all "Greening" the Government Sections—green procurement of products and services, green buildings and landscaping, and recycling and waste prevention actions.
- Encourage other federal agencies to move forward in their greening activities and influence market development for green products and services.



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Environmentally Friendly Design (EFD)

Because of the life cycle nature that begins with product design, Environmentally Friendly Design (EFD) is a critical piece of each principle and integral to the success of all principles. The following illustrates EFD's role and how it is incorporated into each principle:

Product Stewardship is an expression of the responsibility that designers, suppliers, manufacturers, retailers, consumers/users, and disposers are undertaking on to help conserve resources, reduce waste, and ensure that products are used properly in order to protect human health and the environment.

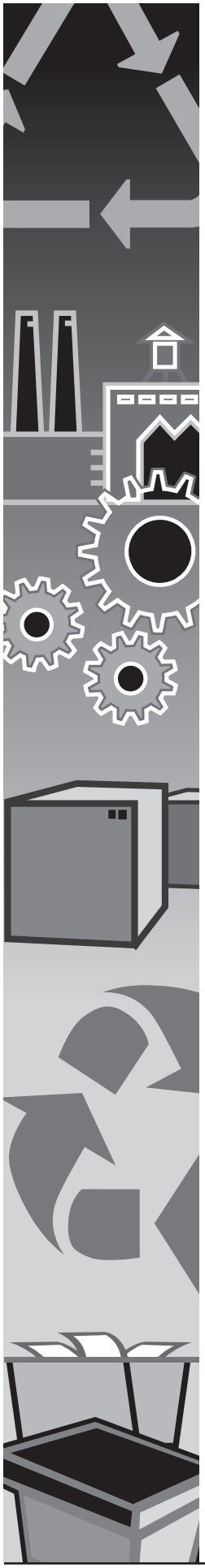
In **Beneficial Use of Materials**, developing baseline data about the waste that exists and how it can be reused and recycled can influence decisionmaking during the design of products, resulting in reduced waste (i.e., cradle-to-cradle or closed loop systems). Creating material flow accounts can be a useful way to promote efficient materials management and provide designers with the information necessary to design environmentally friendly products.

By continuing to emphasize **Energy Conservation** and resource recovery in product design, we can reduce the environmental impacts of energy production used for manufacturing, conserve national resources by recycling energy within the manufacturing process, encourage the use of innovative energy sources by both manufacturers and users, and reduce the amount of energy consumed by operators of electronic and fuel-driven products.

The **Priority Chemicals** principle discusses EPA's approach to reducing use of certain chemicals. RCC can work with designers and manufacturers to create products with chemicals that have environmentally friendly profiles.

Because the United States government is the largest purchaser in the nation, and therefore has a major effect on the products and services that are produced, working in **Greening the Government** offers a tremendous opportunity to reduce environmental impact. Through green procurement, the government preferentially selects many products and services based on one or more of their environmental attributes, such as paper made with recycled content. However, by considering all of the environmental attributes of a product (life cycle management), designers and manufacturers may find that products can be redesigned to be entirely recycled, reused, or made without toxic constituents.

For more information on EFD, please go to the RCC webpage for EFD: http://www.epa.gov/epaoswer/osw/conserve/elements/design.htm.



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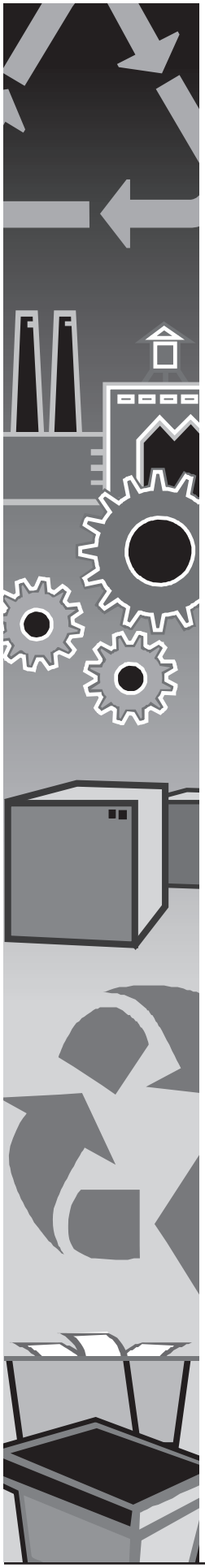
List of 31 Priority Chemicals

1,2,4-Trichlorobenzene	Hexachloroethane
1,2,4,5-Tetrachlorobenzene	Methoxychlor
2,4,5-Trichlorophenol	Naphthalene
4-Bromophenyl phenyl ether	PAH Group (as defined in TRI)
Acenaphthene	Pendimethalin
Acenaphthylene	Pentachlorobenzene
Anthracene	Pentachloronitrobenzene
Benzo(g,h,i)perylene	Pentachlorophenol
Dibenzofuran	Phenanthrene
Dioxins/Furans *	Polychlorinated Biphenyls (PCBs)
Endosulfan, alpha & Endosulfan, beta *	Pyrene
Fluorene	Trifluralin
Heptachlor & Heptachlor epoxide *	Cadmium
Hexachlorobenzene	Lead
Hexachlorobutadiene	Mercury
Hexachlorocyclohexane, gamma-	



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Acronyms

BFR	Brominated Flame Retardants
CPG	Comprehensive Procurement Guidelines
EFD	Environmentally Friendly Design
EMS	Environmental Management Systems
EO	Executive Order
EPA	Environmental Protection Agency
EPP	Environmentally Preferred Purchasing
MOU	Memorandum of Understanding
MSW	Municipal Solid Waste
NPEP	National Partnership for Environmental Priorities
OPPT	Office of Pollution Prevention and Toxics
OSW	Office of Solid Waste
P2	Pollution Prevention
PBTs	Persistent, bioaccumulative, and toxics
RCC	Resource Conservation Challenge
RCRA	Resource Conservation and Recovery Act